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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/680,429 | 10/06/2000 | Hajime Tabata | 0505-0704P | 1288 |

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Falls Church, VA 22040-0747

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| EXAMINER |
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NI, SUHAN

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| ART UNIT | PAPER NUMBER |
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2643

DATE MAILED: 06/07/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/680,429

Applicant(s)

TABATA, HAJIME

Examiner

Suhan Ni

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to the amendment filed 03/22/2004.

Claim Objections

2. Claim 20 is objected to because of the following informalities:

Regarding claim 20, the limitation of "the motorcycle helmet" in line 1 is not proper since it fails to further limit a previous claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 17-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 17, it recites the limitation of "said inner surface" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 18, it recites the limitation of "said inner surface" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-13 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szilagyi et al. (U. S. - 6,396,197).

Regarding claims 1-4, 7-10, 15-16 and 19-20, Szilagyi et al. disclose a speaker of a helmet (Figs. 6-7), said speaker (10) comprising: a piezo-film (16) curvedly supported to form at least one curved portion, said piezo-film having at least a radius of curvature and a principal surface (Fig. 1). But Szilagyi et al. do not clearly teach that the radius is in a range of equal or larger than 20 cm or the surface is in a range equal or larger than 40 cm*cm as claimed. Since Szilagyi et al. do not specially restrict the radius or the surface area of the piezo-film speaker, and clearly suggest to provide a contour with variable radii of curvature for the speaker (claim 6); further, providing a desirable curved piezo-film speaker for a specific application is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable piezo-film speaker with a desirable configurations, such as a slightly curved configuration (with a rather large radius and sufficient active surface area), for the helmet, in order to generate desirable sound for the user of the helmet.

Regarding claims 5-6 and 11-12, Szilagyi et al. do not clearly teach that a thickness of the film as claimed. Since Szilagyi et al. do not specially restrict the thickness of the piezo-film for the speaker and suggest to utilize the piezo-film speaker in many applications with desirable configurations, it therefore would have been obvious to one skilled in the art at the time the

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invention was made to provide a piezo-film with a desirable thickness, such as a 110 um or 28 um thickness for the speaker, in order to generate desirable sound in many different applications.

Regarding claim 13, Szilagyi et al. do not clearly teach all inners as claimed. Since providing one or more suitable liner(s)/inner(s) for a helmet is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to provide all suitable liners and/or inners for the helmet as an alternate choice, in order to provide comfort for a user, and make the helmet more durable.

Regarding claims 17-18, Szilagyi et al. do not clearly teach for mounting the speaker directly to an inner surface of the helmet shell as claimed. Since providing no liner material for a simple helmet shell is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to provide one or more piezo-film speaker for the simple helmet shell (mounted directly to the shell), in order to reduce the cost and make the helmet more affordable.

Allowable Subject Matter

5. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment

6. Applicant's arguments dated 03/22/2004 have been fully considered, but they are not deemed to be persuasive.

Regarding the argument under remarks on page 8, the applicant states that Szilagyi et al. reference is insufficient to teach the claimed limitation. The examiner respectfully disagrees with the applicant. The cited reference (U. S. Pat. – 6,396,197), Szilagyi et al. do clearly show that the helmet “is possible to provide voice/sound reproduction at a sound pressure (usually referring to ambient noise)”. Further, it is well known in the art, piezo-film speaker generally is desirable in a higher frequency range, and ambient noise is usually in a lower frequency range.

As to the combination of Szilagyi et al. and well-known limitations has failed to teach applicants’ claimed invention, the Examiner respectfully disagrees. Please refer to newly cited reference, “piezo film sensors” clearly teaches how to determine the curvature and active area of a piezo-film speaker (please see pages 80-82). Furthermore, Szilagyi et al. clearly suggest a curvature (contour) with variable radii of curvature in claim 6, which defines the curvature of the piezo-film. Therefore, the combination of these references teaches the recited claim limitations.

Regarding the rejections, the applicants argue no motivation to combine the references. It is not necessary that the references actually suggest, expressly or in so many words the changes or improvements that applicants have made. The test for combining references is what the references as whole would have suggested to one of ordinary skilled in the art. **In re Sheckler, 168 USPQ 716 (CCPA 1971); In re Mlaughlin 170 USPQ 209 (CCPA 1971); In re Young 159 USPQ 715 (CCPA 1968).**

Conclusion

7. **THIS ACTION IS MADE FINAL.** See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

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A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

8. Any response to this final action should be mailed to:

**Commissioner of Patents and Trademarks
Washington, D.C. 20231**

Or faxed to:

(703) 308-9051, (for formal communications; please mark "EXPEDITED PROCEDURE"), or

(703) 305-9508, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to:


**Receptionist, Sixth Floor,
Crystal Park II,
2121 Crystal Drive,
Arlington, Virginia 22202**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is **(703)-308-9322**, and the number for fax machine is **(703)-305-9508**. The examiner can normally be reached on Monday through Thursday from 9:00 am to 7:30 pm. If it is necessary, the examiner's supervisor, **Curtis Kuntz**, can be reached at **(703) 305-4708**.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-3900.

Suhan Ni
Primary Examiner
Art Unit 2643
USPTO



SUHAN NI
PRIMARY EXAMINER

May 22, 2004